Google

How Google Makes Millions Off of Fake News

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Google Places Ads on Fake News Websites Despite Promises to Reform

Introduction

After the 2016 election, public officials and media organizations criticized social media platforms and other tech companies, including Google, for allowing fakes news to spread, possibly influencing the outcome of the election. In the wake of such criticism, Google promised to prevent its ads from appearing on fake news websites, reducing the financial incentive for publishers to produce inaccurate content.[1]

However, a new Campaign for Accountability (CfA) analysis of Google's ad serving platforms has found that Google continues to generate substantial income by placing advertisements on websites responsible for fake news. Google allows this to happen in a couple of different ways: (i) The company continues to partner with hyper-partisan sites that often post inaccurate information, and (ii) Google allows publishers to conceal their identities from advertisers so Google can continue to place ads on these anonymous websites.

CfA analyzed a sample of 1,255 partisan news sites that partner with Google and found 184 of them, or 15 percent, hid their names from advertisers through Google's anonymization feature. Those sites were unusually profitable. Anonymized publishers contributed more than eight times as much revenue per publisher as compared to non-anonymized publishers, the analysis found. In fact, this small subset of websites was responsible for an estimated 60 percent of Google's ad revenue from the sample.

The study also found that the right-wing content publishers in the sample, which were often responsible for publishing highly misleading content, generated an estimated 68 percent of Google's revenue from websites in the sample—or $48.8 million. In contrast, publishers of left-wing content generated an estimated 4 percent of the annual revenue from news websites, based on an extrapolation of the 1,255 publishers included in our survey.[2]

Hyper-partisan, right-wing websites like *Breitbart*, *Drudge Report* and *The Daily Mail*, which commonly post highly dubious and conspiracy-minded content, were the top revenue-generating

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[1] Google's search platform also appears to be contributing to the spread of fake news. In April, the company announced new measures to combat the spread of false information. During the aftermath of the mass shooting in Las Vegas, Nevada, however, Google's search engine briefly listed 4chan as a top news hit, highlighting a thread that named the wrong person as the shooter behind the attack. *See* Abby Ohlheiser, How Far-Right Trolls Named the Wrong Man as the Las Vegas Shooter, *The Washington Post*, October 2, 2017, *available at* https://www. washingtonpost.com/news/the-intersect/wp/2017/10/02/how-far-right-trolls-named-the-wrong-man-as-the-las-vegas-shooter/; Ben Gomes, Our Latest Quality Improvements for Search, *Google*, April 25, 2017, *available at* https://blog.google/products/search/our-latest-quality-improvements-search/.

[2] Right-wing publishers composed 65 percent of the sample while left-wing publishers composed 13 percent of the sample.

publishers in the sample. Other Google advertising partners included the *VDARE Foundation*, which was designated as a hate group by the Southern Poverty Law Center (SPLC) for its white supremacist and anti-Semitic content,[3] and *World Net Daily*, which posts "manipulative fear-mongering and outright fabrications designed to further the paranoid, gay-hating, conspiratorial and apocalyptic visions of [Owner Joseph] Farah," according to SPLC.[4]

In short, hyper-partisan, conservative fake news is a highly profitable business for Google, which may explain why it continues to partner with them and offers them the ability to hide their identities from advertisers. Tellingly, Google's terms of service do not prohibit fake news, including conspiracy theories and other misinformed content, and Google's dashboard for advertisers does not distinguish fake news from quality journalism.

Instead, advertisers are only allowed to choose whether their ads appear in content about right-wing or left-wing politics. As a result, advertisers are forced to choose between safe audiences and large audiences, and may unwittingly end up funding groups and activities that are antithetical to their values.

Background

Facing an outcry from the public and major advertisers, Google repeatedly vowed to stop fake news sites from using its dominant ad network to profit from conspiracy theories, hateful material and outright falsehoods. After the 2016 presidential election, which saw a surge in false information masquerading as news, Google said in a statement: "Moving forward, we will restrict ad serving on pages that misrepresent, misstate, or conceal information about the publisher, the publisher's content, or the primary purpose of the web property."[5]

In response to complaints of ads still appearing alongside hate content, Google rolled out more options for advertisers in Spring of 2017.[6] "Starting today, we're taking a tougher stance on hateful, offensive and derogatory content," Google said. "This includes removing ads more effectively from content that is attacking or harassing people based on their race, religion, gender or similar categories."[7]

However, CfA's in-depth study of fake news sites reveals that Google continues to allow many such sites to use its dominant ad network. Furthermore, it grants many such sites the ability to hide their identities from advertisers that might otherwise object to the ads appearing on their pages.

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[3] https://www.splcenter.org/fighting-hate/extremist-files/group/vdare.
[4] https://www.splcenter.org/fighting-hate/extremist-files/group/worldnetdaily.
[5] Julia Love and Kristina Cooke, Google, Facebook Move to Restrict Ads on Fake News Sites, *Reuters*, November 4, 2016, *available at* https://www.reuters.com/article/us-alphabet-advertising/google-facebook-move-to-restrict-ads-on-fake-news-sites-idUSKBN1392MM.
[6] Sapna Maheshwari, Ads Show Up on Breitbart and Brands Blame Technology, *The New York Times*, December 2, 2016, *available at* https://www.nytimes.com/2016/12/02/business/media/breitbart-vanguard-ads-follow-users-target-marketing.html.
[7] Philipp Schindler, Expanded Safeguards for Advertisers, *Google*¸ March 21, 2017, *available at* https://www.blog.google/topics/ads/expanded-safeguards-for-advertisers/.

Google does not say why it gives such sites the tools to hide their identities from advertisers. It simply says some sites "choose to offer these placements anonymously and not disclose their site names to advertisers for various reasons."[8]

CfA's analysis suggests one likely reason: money. According to our analysis of news sites, Google likely generates significant profits from extreme right-wing publishers of fake news on the dominant Google Display Network[9] (GDN), exploiting loopholes in its terms of service and limited transparency about its publishers.

How Google's Ad Platform Works

The GDN is a group of more than 2 million pre-approved websites that Google partners with to display ads from companies on their pages, apps, and videos.[10] Advertising on this network is crucial to Google's bottom line. In the first quarter of 2017, for example, Google generated over $4 billion in revenue from ads placed on sites in the network, accounting for 16.4 percent of its worldwide revenue.[11]

Despite recent criticism, the GDN includes a number of sites associated with the "alt-right" movement, a neologism for many of the same groups that previously were referred to as white nationalists or white supremacists.[12] For example, *Breitbart* continues to be included in the GDN, despite the fact that over 1,000 advertisers pulled their ads from the site because of content

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[8] https://web.archive.org/web/20170905210605/https://www.en.advertisercommunity.com/t5/AdWords-Tracking-and-Reporting/What-does-quot-anonymous-google-quot-mean-in-my-Placement/td-p/473414?nobounce.

[9] The Google Display Network consists of more than two million websites and apps that display ads through Google. Advertisers buy ads to display on this network through AdWords and DoubleClick. For more concepts explained, see the glossary below.

[10] Google says the GDN comprises "all of the sites where advertisers can buy ads through Google, including the over one million AdSense and DoubleClick Ad Exchange partners as well as YouTube and Google properties such as Google Finance, Gmail, Google Maps, and Blogger. *See* https://adsense.googleblog.com/2010/06/introducing-google-display-network.html.

[11] Alphabet Inc., Form 10-Q, *2017 First Quarterly Report*, May 2, 2017, p.33, *available at* https://abc.xyz/investor/pdf/20170331_alphabet_10Q.pdf.

[12] Steve Bannon called *Breitbart* "a platform for the alt-right." *See* Wil S. Hylton, Down the Breitbart Hole, *The New York Times*, August 16, 2017, *available at* https://www.nytimes.com/2017/08/16/magazine/breitbart-alt-right-steve-bannon.html.

that German airline Lufthansa described as "violent, sexist, extremist and radical political content."[13] An investigation by *BuzzFeed* revealed that *Breitbart*, despite its public denials, has private connections to white nationalists and neo-Nazis.[14]

Hate Group Advertising

Google has taken some highly publicized actions against hate sites that have gained a high degree of notoriety. In August 2017, it canceled the domain registration for the neo-Nazi site *Daily Stormer* after it denigrated the victim of an attack in Charlottesville, Virginia.[15]

At the same time, however, Google continues to partner with several other sites known for peddling hateful content and right-wing conspiracy theories. One Google display network partner is the *VDARE Foundation*, which was designated as a hate group by SPLC for its white supremacist and anti-Semitic content.[16]

AdSense[17] is also used throughout the domain of *World Net Daily*, a publication described by the SPLC as devoted to "manipulative fear-mongering and outright fabrications designed to further the paranoid, gay-hating, conspiratorial and apocalyptic visions of [Owner Joseph] Farah and his hand-picked contributors from the fringes of the far-right and fundamentalist worlds."[18]

In the wake of the 2016 election, many AdWords and Doubleclick advertisers began to pull their ads after finding them running alongside hate speech and extremist content.[19] In response, Google rolled out new controls that it said would allow advertisers to "stop their ads from showing against controversial content."[20]

Nevertheless, CfA's study found that the new policy and additional tools have done little to reduce the risk that ads will appear next to objectionable content. The changes have also done little to prevent those who peddle hate speech and extremist content from profiting through their business relationship with Google.

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[13] Tom Embury-Dennis, Breitbart 'Loses Advertising Deals' With More Than 1,000 Companies, *Independent*, February 15, 2017, *available at* http://www.independent.co.uk/news/world/americas/breitbart-advertising-deals-companies-pull-out-steve-bannon-alt-right-site-a7582296.html.

[14] Joseph Bernstein, Alt-White: How the Breitbart Machines Laundered Racist Hate, *BuzzFeed*, October 5, 2017, *available at* https://www.buzzfeed.com/josephbernstein/heres-how-breitbart-and-milo-smuggled-white-nationalism.

[15] Yoree Koh and Jack Nicas, Google, GoDaddy Crack Down on Neo-Nazi Site Daily Stormer, *The Wall Street Journal*, August 14, 2017, *available at* https://www.wsj.com/articles/google-cancels-neo-nazi-site-daily-stormers-registration-1502740126.

[16] https://www.splcenter.org/fighting-hate/extremist-files/group/vdare.

[17] AdSense is the platform that Google Display Network member sites (publishers) use to sell ad space, generating revenue when site visitors view or click on the advertisements. For more concepts explained, see the glossary below.

[18] https://www.splcenter.org/fighting-hate/extremist-files/group/worldnetdaily.

[19] Maheshwari, *The New York Times*, Dec. 2, 2016; Jack Nicas, Google's YouTube Has Continued Showing Brands' Ads With Racist and Other Objectionable Videos, *The Wall Street Journal*, March 24, 2017, *available at* https://www.wsj.com/articles/googles-youtube-has-continued-showing-brands-ads-with-racist-and-other-objectionable-videos-1490380551.

[20] Ronan Harris, Improving our Brand Safety Controls, *Google*, March 17, 2017, *available at* https://www.blog.google/topics/google-europe/improving-our-brand-safety-controls/.
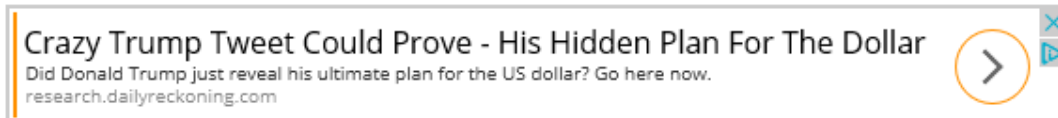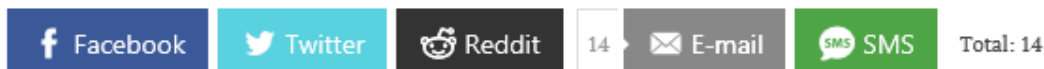
In the wake of the mass shooting in Las Vegas, Nevada, several websites that host Google ads published stories with false or misleading information. For instance, GotNews, the website run by conservative provocateur Charles Johnson, published an article on October 12, 2017, headlined, "Las Vegas Security Guard Cancels On @SeanHannity, Whereabouts Unknown."[21] The fact-checking website *Snopes* declared the article's claim "false," but Google ads continue to run alongside the story.[22]
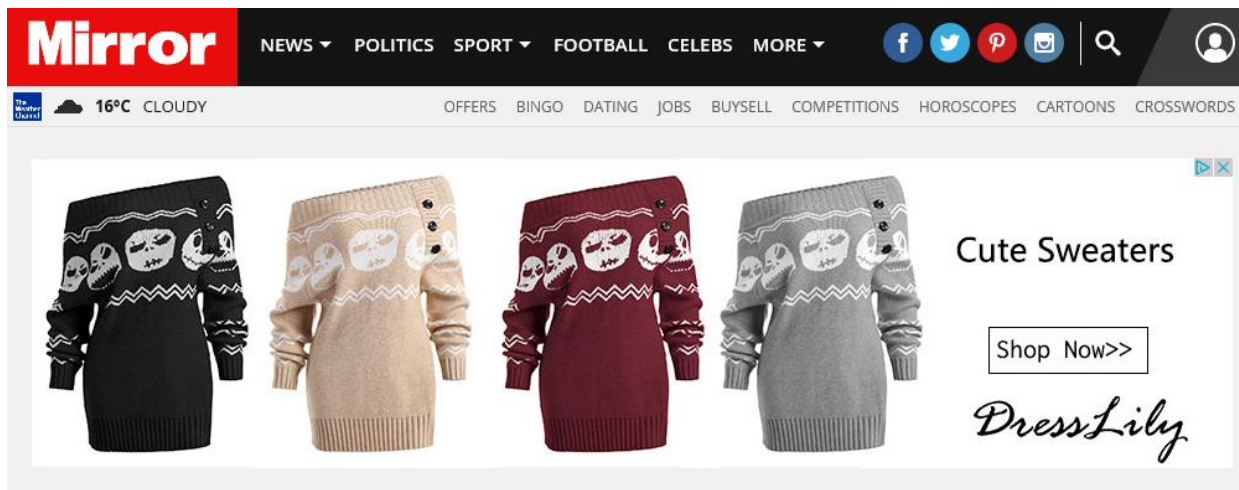

Similarly, on October 2, 2017, *The Daily Mirror* published a story, headlined, "Woman Chillingly said 'Everyone is Going to Die' to Las Vegas Reveller Celebrating her 21st Birthday."[23] *BuzzFeed* reported, however, that the CEO of the security firm "working the concert Sunday night, told *BuzzFeed News* that this is a false report."[24] Google ads also are running alongside this story on *The Daily Mirror's* website.

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[21] Las Vegas Security Guard Cancels On @SeanHannity, Whereabouts Unknown, *GotNews*, October 12, 2017, *available at* http://gotnews.com/breaking-las-vegas-security-guard-cancels-seanhannity-whereabouts-unknown/.
[22] Bathania Palma, Is the Mandalay Bay Security Guard 'Missing'?, *Snopes*, October 16, 2017, *available at* http://www.snopes.com/is-the-mandalay-bay-security-guard-missing/.
[23] Rachael Burford, Woman Chillingly said 'Everyone is Going to Die' to Las Vegas Reveller Celebrating her 21st Birthday, *The Daily Mirror*, October 2, 2017, *available at* http://www.mirror.co.uk/news/world-news/woman-chillingly-said-everyone-going-11274113.
[24] Ryan Broderick, Here Are All The Hoaxes Being Spread About The Las Vegas Shooting, *BuzzFeed*, October 2, 2017, *available at* https://www.buzzfeed.com/ryanhatesthis/here-are-all-the-hoaxes-being-spread-about-the-las-vegas.

Woman chillingly said 'everyone is going to die' to Las Vegas reveller celebrating her 21st birthday

How Google's Platforms Allow Advertisements on Objectionable Websites

Google's policy is riddled with significant loopholes that the company has so far failed to address. Google did broaden its hate content policy to restrict "dangerous or derogatory content," including hate speech aimed at specific groups.[25] Its terms of service, however, do not restrict publishers from promoting *misinformation*, including conspiratorial and fake content as often found on hyper-partisan sites.[26]

In other words, sites peddling hoaxes such as "Pizzagate"—a false story that inspired a North Carolina man to shoot a semi-automatic weapon inside a Washington D.C. pizza restaurant—would still be able to display ads from Google's advertisers.[27]

> **"Sites peddling hoaxes such as 'Pizzagate' - a false story that inspired a North Carolina man to shoot a semi-automatic weapon inside a Washington, D.C. pizza restaurant - would still be able to display ads from Google's advertisers."**

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[25] Mark Bergen, Google Overhauls Ads Policies, *Bloomberg*, March 21, 2017, *available at* https://www.bloomberg.com/news/articles/2017-03-21/google-overhauls-ads-policies-after-uproar-over-youtube-videos.

[26] Ginny Marvin, Google Isn't Actually Tackling `Fake News' Content on its Ad Network, *Marketing Land*, February 28, 2017, *available at* http://marketingland.com/google-fake-news-ad-network-revenues-207509.

[27] Cecilia Kang and Adam Goldman, In Washington Pizzeria Attack, Fake News Brought Real Guns, *The New York Times*, December 5, 2016, *available at* https://www.nytimes.com/2016/12/05/business/media/comet-ping-pong-pizza-shooting-fake-news-consequences.html.

Rather than scrutinize the content itself, the rules simply shift the burden of finding and flagging objectionable material from Google to advertisers.[28] Under Google's system, it is incumbent upon advertisers to identify and blacklist specific domains that they find objectionable.

But Google doesn't make this easy: its ad platforms don't allow advertisers to block fake news sites as a category. They only allow advertisers to include or exclude broad topics such as "politics." Blacklisting that category could exclude ordinary news sites like *CNN* as well as *Breitbart* or *WorldNet Daily*.

Even if advertisers could identify specific extreme websites, Google offers these publishers a way to circumvent advertiser exclusions by making their sites anonymous. If a publisher decides to sell advertising space anonymously, advertisers will see only a random string of numbers, such as *"999188af3695d396.anonymous.google.com."* Advertisers that buy ads on these sites can only see how ads performed, with no indication of the content that appears alongside their ads.

One advertiser reported to a Google representative:

> *"I [was] checking out one of the placements where the clicks were high. I was appalled when nude images showed up on the placement site!! The text contained the keywords that I was targeting but it was a fake website with keywords randomly placed!! Now I'm worried that there might be similar websites in anonymity and I have no control over it.[29]*

Advertisers can exclude all anonymized domains. But many such domains are reportedly among the sites with the highest click-through rates and may, as far as the advertiser is concerned, be perfectly legitimate. Another advertiser reported,

"I get great results from these placements, I'd just like to know what type of sites these are."[30]

Google's practice of anonymizing websites in its display network ultimately prevents advertisers from making informed decisions about where they are advertising—precisely what Google says it wishes to give them.[31]

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[28] Ginny Marvin, <u>Google Expands AdSense Hate Speech Policy, Launches Page-Level Ad Removal Capabilities</u>, *Marketing Land,* April 26, 2017, *available at* <u>https://blog.google/topics/ads/expanded-safeguards-for-advertisers/</u>; Maheshwari, *The New York Times*, Dec. 2, 2016.

[29] <u>https://web.archive.org/web/20170905210605/https://www.en.advertisercommunity.com/t5/AdWords-Tracking-and-Reporting/What-does-quot-anonymous-google-quot-mean-in-my-Placement/td-p/473414?nobounce</u>.

[30] *Id.*

[31] Little has been written on anonymous.google.com, though the subject has been discussed on advertising community forums and blogs. One blog warns that "in US-Only tests, anonymous placements *generated nearly twice the percentage of robotic traffic as to non-anonymous placements*, and while we believe that Google did not bill for the majority of those automated clicks, their presence raises suspicions about anonymous placements in general." *See* <u>Anonymous.google – A Problem Child?</u>, *Pure Click.* October 20, 2014, *available at* <u>http://www.pureclick.com/anonymous-google-a-problem-child/</u>.

Methodology

CfA studied the advertising revenue generated from a sample of 1,255 political news publishers within the Google Display Network, including hyper-partisan publishers like *Breitbart* (http://www.breitbart.com) and the *Drudge Report* (http://drudgereport.com).[32]

Ginny Marvin, paid media reporter at Third Door Media, compiled the sample as a guide for advertisers regarding the type of sites included in the hyper-partisan category on Google Display Planner.[33] Because Google makes it impossible to identify and separate fake news sites as a category, hyper-partisanship is the best proxy for these sites.[34] It is worth noting, however, that this proxy is imperfect: Google sometimes miscategorizes neutral content as partisan. For example, technology website trumpexcel.com is mislabeled as having "right-wing content" according to Google. Google categorizes the *Associated Press's* elections page as "right-wing" content, possibly because it covers the role of the "alt-right" in electoral politics.

There has been no empirical analysis on the potential revenue generated for Google from these publishers, or an evaluation of the risk to advertisers of ads appearing alongside fake or fraudulent material. We attempted to fill this gap by studying the *Marketing Land* data on 1,255 websites whose topics include right-wing or left-wing politics (as classified by Google) as an initial sample for this analysis. The *Marketing Land* data provides information on costs per click, impressions per week, and image ad size by GDN publisher.

We relied on costs per click and impressions per week, to estimate the amount of revenue Google AdSense generated through advertisements based on the sample of publisher sites with political content.

Glossary of Terms

AdSense: The platform that Google Display Network member sites (publishers) use to sell ad space, generating revenue when site visitors view or click on the advertisements.

Anonymization: The process by which Google dynamically creates and registers domain names for Ad Exchange publishers and their websites to route ad traffic through, allowing publishers to be anonymous to advertisers (i.e. "-.anonymous.google.com").

AdWords: The platform through which advertisers target and buy ads for display on Google services and on the millions of third party websites in the Google Display Network. **Doubleclick for Advertisers** offers a premium version of AdWords for large advertisers and agencies.

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[32] The full list of publishers can be found here: https://docs.google.com/spreadsheets/d/1qSn054gPG2V7lWl3vsD0NTkjBO8BoxX-CSKGx-9yrsQ/edit?usp=sharing.

[33] Ginny Marvin, Brand safety: Avoiding Fake & Hyperpartisan News on the Google Display Network, *Marketing Land*, February 28, 2017, *available at* https://marketingland.com/google-display-network-avoid-fake-hyper-partisan-news-207703.

[34] *Id.*

Costs per click (CPC or pay per click): The amount the publisher and Google earn each time a user clicks on an ad served by Google.

Click through rate: The ratio of users who click on an advertisement relative to the total number of users who are exposed to that advertisement.

Doubleclick AdExchange: An alternative platform through which GDN publishers can sell ad space. While AdSense and the Doubleclick Ad Exchange rely on the same ad-serving technology and grant publishers access to the same pool of advertisers, only Ad Exchange sellers can block specific advertisers or anonymize their domains.

Google Display Network (GDN): The network of more than two million websites and apps that display ads through Google. Advertisers buy ads to display on this network through AdWords and DoubleClick.

Impressions: The number of times the publisher's website is loaded and returns at least one fully loaded Google AdSense ad.

Publishers: Websites that sell advertising space through AdSense or the DoubleClick Ad Exchange.

Analysis

Right Wing Publishers Generate More Impressions

Based on the sample data, we found that right-wing, extremist news sites contributed more traffic and generated potentially more revenue for Google relative to other news sites. This poses substantial challenges to advertisers and brand reputations. Extremist and hyper-partisan websites can qualify as news outlets, albeit fake news sites, like *Breitbart* and the *Drudge Report*. These sites also generated more impressions or internet traffic compared to more mainstream sites or left-leaning websites. For example, the *Associated Press* elections page generated 150,000 to 200,000 weekly impressions, whereas *Breitbart* generated 150 to 200 million impressions – an order of magnitude more. The *Daily Mail* generated an impressive 500 million to 1 billion impressions, an order of magnitude more than the *Daily Beast's* 50 to 100 million.

The inclusion of extremist sites, along with anonymized sites, is problematic for advertisers because they may be unaware of the risks to brand credibility (and current reporting has not quantified these risks). Google does not currently provide advertisers with adequate tools to address these issues. The relationship between hyper-partisan, fake news publishers and Google revenue has yet to be evaluated empirically. Therefore, we estimated Google's annual revenue from the sample of news publishers collected by *Marketing Land* and analyzed the relationship between publisher characteristics and expected revenue.

Figure 1: Average W*eekly Impressions by Publishers*
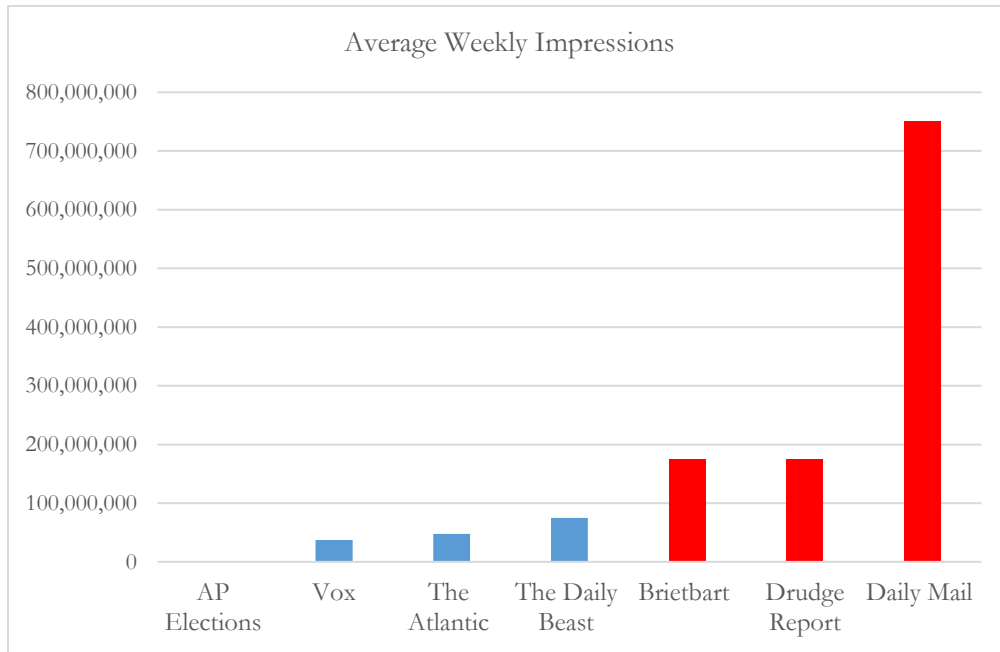
We found that Google produces a disproportionate amount of revenue from anonymized publishers that are part of the Google Display Network. We estimated that anonymized publishers generated 60 percent of AdSense revenue for sites in the sample even though anonymized publishers only made up 15 percent of sampled sites. We also found that left-wing content publishers are significantly less common and generate significantly fewer impressions and less estimated revenue compared to right-wing content publishers.

As discussed below, this is likely associated with greater popularity and greater connectivity among right-wing sites. Right-wing publishers generated 71 percent of estimated revenue and comprised 65 percent of the sample, whereas left-wing publishers generated 4 percent of revenue and comprised 13 percent of the sample.

In terms of partisan GDN publishers, Google likely generates a substantial portion of its revenue from both anonymized and right-wing publishers. This trend incentivizes Google to remain relatively opaque in its AdSense practices since it profits from hyper-conservative sites.

Anonymous Publishers

The anonymization portion of this study examined whether Google's AdSense anonymization practices are associated with relatively greater revenue in the sample compared to non-anonymized publishers. Google will dynamically create and register a domain name for publishers that want to conceal their identities from advertisers on their sites.

Online advertisers can view performance data for individual anonymous domains, but cannot view what those individual domains are.[35] Google provides advertisers with the option to exclude anonymous publishers through bulk or individual site exclusions but does not offer information on publisher content other than through the topic listings.

Advertisers can view anonymous publisher placement data and exclude anonymous sites, but they cannot evaluate how the publisher's content or user experience on the site may influence brand image. Google explicitly prohibits advertisers from attempting to de-anonymize publishers. The AdWords documentation states that advertisers may not attempt to determine the identity of the publisher, website or other identifying information associated with an anonymized domain.[36] Without the ability to check publisher sites, advertisers cannot identify and flag potential violators of Google's terms of service or reasonably evaluate whether to remain with certain controversial publishers.

Google also allows publishers to list their sites on the Doubleclick Ad Exchange as both branded and anonymous, and grants them the discretion to hide or reveal their identities to individual buyers on a case-by-case basis.[37] This could allow a publisher whose branded domain has been blocked by an advertiser to regain that advertiser's business through an anonymous link to the same domain.

Anonymized publishers appear with an alphanumeric query string followed by -anonymous.google.com (e.g. 999188af3695d396.anonymous.google.com.) Among the sampled 1,255 GDN publishers (collected between February 10, 2017, and February 23, 2017), 184 publishers were anonymized, or approximately 15 percent. According to Google's topic listings, 71 percent of the anonymized domains contain right-wing political content. The remainder are

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[35] Bryan Weinstein, <u>PPC Tips for Dealing with Anonymous Google Placements</u>, *Metric Theory*, April 11, 2017, *available at* http://metrictheory.com/ppc-tips-for-dealing-with-anonymous-google-placements/.
[36] https://support.google.com/adwords/answer/2472739?hl=en.
[37] https://support.google.com/adxseller/answer/6334919?hl=en.

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politically neutral; according to Google, none of the anonymized domains contained left-wing political content.

Though anonymized domains made up a minority of sites in the sample, they contributed disproportionately to Google's estimated annual revenue. As shown in Table 1, seven of Google's top ten estimated revenue generators in the sample had anonymized domains.[38] The only other publishers in the top ten list were hyper-conservative, sensational sites: *Drudge Report*, *Breitbart* and the *Daily Mail*.[39] As shown in Figure 1 and Figure 7, we estimated that Google generates $42.8 million in total annual revenue from the sampled anonymized publishers (60%), whereas sampled publishers with provided domains only generate $29.2 million (approximately 40%).

> **"Right-wing content publishers, which are often responsible for misleading content, generated an estimated 68 percent of Google's annual ad revenue - or $48.8 million."**

Per publisher, the difference in average revenue generated between anonymized and non-anonymized sites was even more striking (*see* Figure 2). We estimated that Google receives approximately $27,369 on average in annual revenue per non-anonymized publisher. For anonymized domains, Google receives *over eight times more* in revenue per publisher, approximately $232,500 per publisher. This positive association between anonymization and increased revenue holds even when accounting for the partisanship of publisher content, average cost-per-click for each publisher, and differences in certainty (or statistical error) between publisher data. Examining the relationship between the sampled publisher characteristics and estimated Google annual revenue from the sampled sites, we found that anonymization has a positive and statistically significant effect on revenue.

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[38]As discussed in the methods section, we estimated revenue based on weekly impressions, costs-per-click, and an assumed click-through rate of 0.1 percent (the industry average).

[39] Although not classified through topic listings as conservative, *The Daily Mail* is a conservative British tabloid publisher that engages in right-wing sensational and conspiratorial stories. *See* Dana Nuccitelli, This is why conservative media outlets like the Daily Mail are `unreliable', *The Guardian,* February 13, 2017, *available at* https://www.theguardian.com/environment/climate-consensus-97-per-cent/2017/feb/13/this-is-why-conservative-media-outlets-like-the-daily-mail-are-unreliable.

Table 1: Top ten publishers with GDN by estimated total annual revenue

Website	Anonymous	Total Annual Revenue	Google Annual Revenue	CPC	Weekly Impressions	Partisan Content
dailymail.co.uk	No	$19,500,000	$6,240,001	$0.50	750,000,000	None identified
6068*	Yes	$12,400,000	$3,952,000	$0.50	475,000,000	Right
6fa6e635582179a*	Yes	$11,400,000	$3,640,000	$1.25	175,000,000	None identified
9413*	Yes	$7,150,000	$2,288,000	$0.50	275,000,000	Right
14287*	Yes	$4,875,001	$1,560,000	$1.25	75,000,000	Right
7d0f4c73118651f*	Yes	$4,875,001	$1,560,000	$1.25	75,000,000	Right
breitbart.com	No	$4,550,001	$1,456,000	$0.50	175,000,000	Right
7133*	Yes	$4,550,001	$1,456,000	$0.50	175,000,000	Right
faf2360c8f1401b3*	Yes	$4,550,001	$1,456,000	$0.50	175,000,000	Right
drudgereport.com	No	$4,550,001	$1,456,000	$0.50	175,000,000	Right

Note 1: Estimated averages provided for revenue, CPC and weekly impressions, based on ranges provided in the *Marketing Land* dataset. Online advertisement industry average assumed for click-through-rate, 0.1 percent.

Note 2: Google Annual Revenue was calculated as 32 percent of Total Annual Revenue, based on the company's own disclosures about revenue share for AdSense publishers.[40]

Note 3. ∗ designates domain followed by anonymous.google.com domain.

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[40] https://support.google.com/adsense/answer/180195?hl=en.

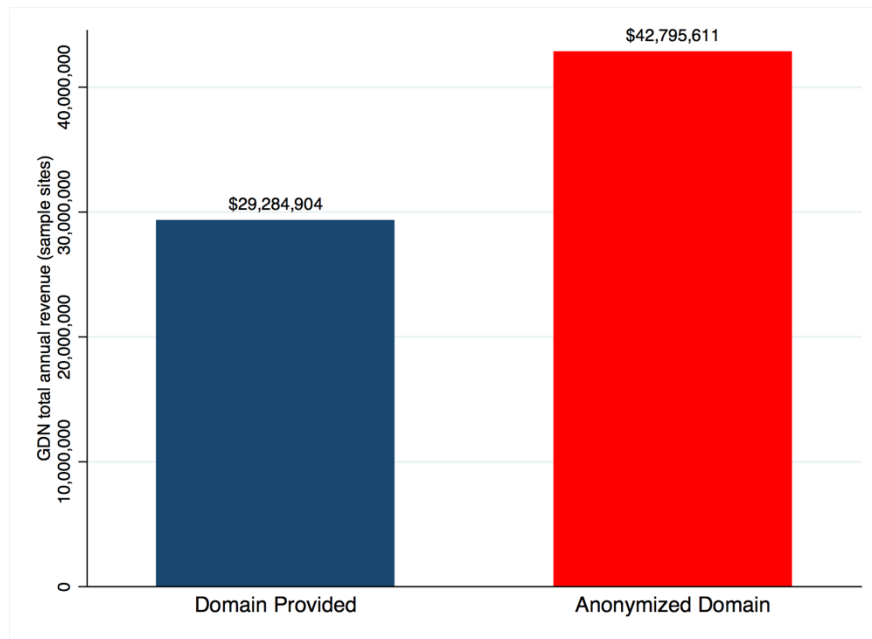Figure 2: Google's estimated total annual revenue from sampled GDN publishers

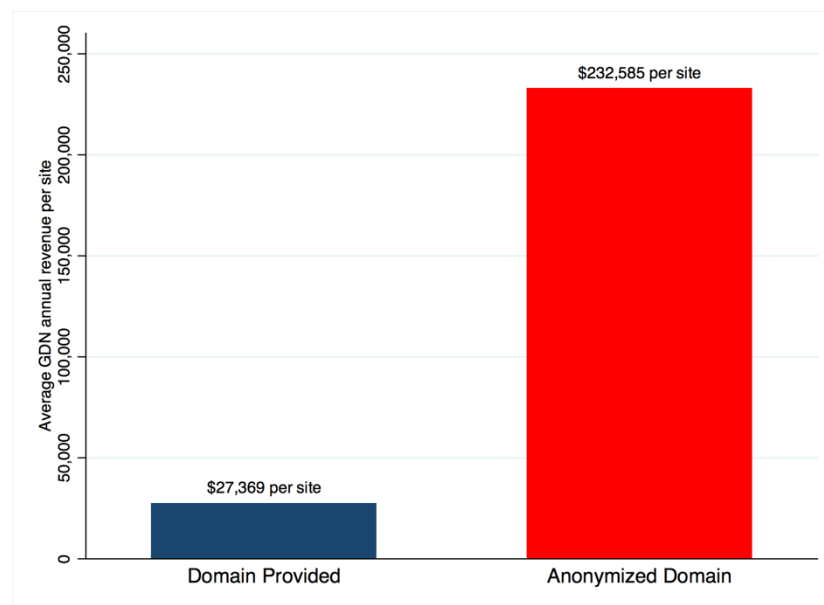Figure 3: Estimated Google annual revenue per GDN publishers

Figure 4 shows the coefficient estimates of the regression results. The full regression results and model specifications are provided in Table 4 of the Appendix. Anonymization had a positive and statistically significant effect on Google's estimated annual revenue. In contrast, the effect of partisan content was less conclusive in this study. None of the model specifications identified a statistically significant relationship between partisanship and estimated revenue.

Figure 4: OLS coefficient estimates, Eq. 2
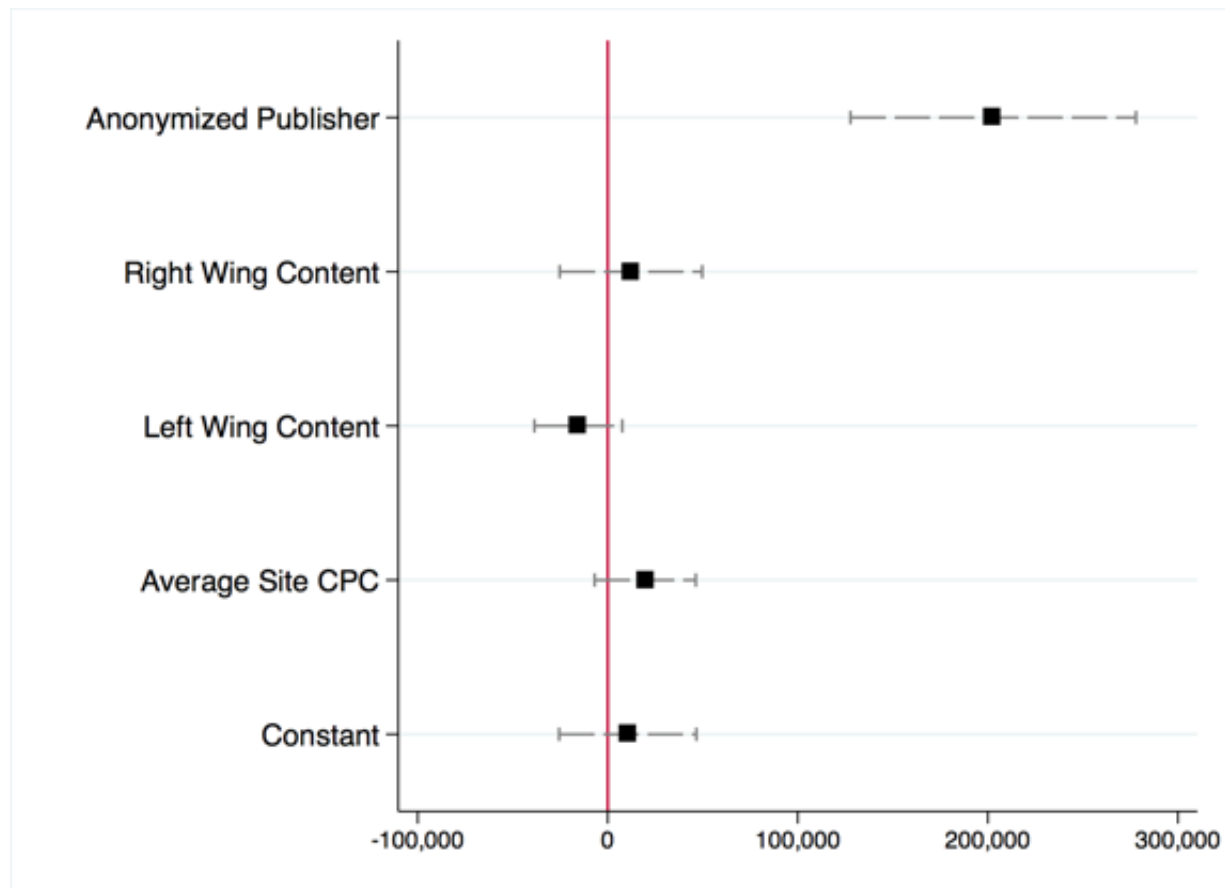
The positive relationship between anonymization and revenue is driven in part by high rates of impressions among anonymized sites. The 184 anonymized sites (of 1,255) comprised 63 percent of total weekly impressions, but only 14 percent of Total Costs-Per-Click (Figure 5). Impressions are the number of times the host website is loaded and returns at least one Google AdSense ad, meaning the publisher website is clicked and fully loads advertisements. As shown in Table 6 of the Appendix, eight of the top 13 publishers in weekly impressions were anonymized sites. Non-anonymized publishers with the highest rates of impressions were similar to those driving revenue: *Breitbart*, *Drudge Report*, *Daily Mail* and *Young Cons*. Likewise, findings from regressions suggest that anonymization is positively and statistically significantly for average weekly impressions (Table 5).

Figure 5: Characteristics of Sample GDN Publishers
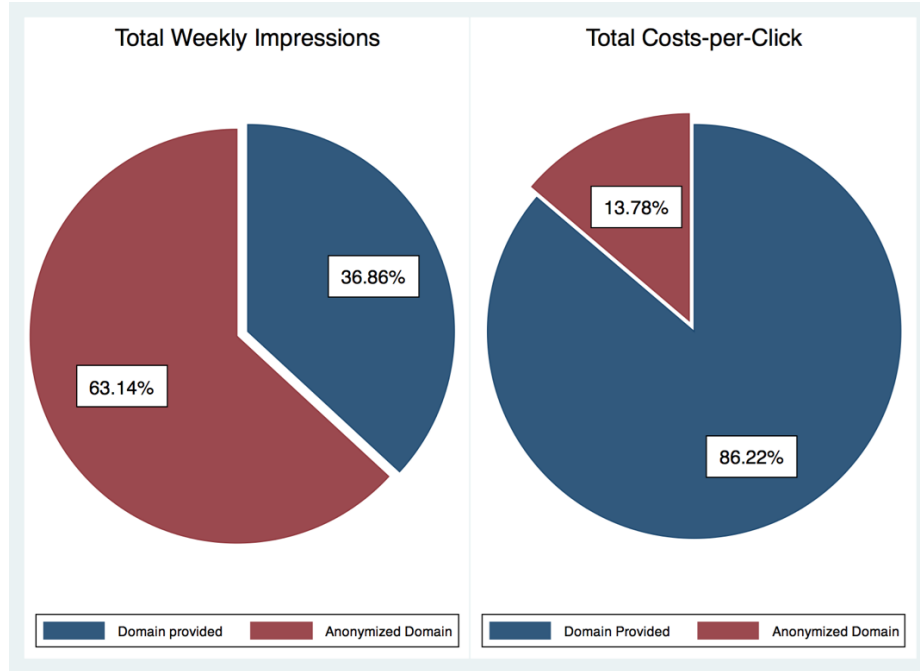
Publishers that choose to anonymize might be more likely to have sensational and clickbait content, thus increasing the number of times their site is clicked and advertisements are fully loaded. Clickbait refers to "content whose main purpose is to attract attention and encourage visitors to click on a link to a particular web page."[41] Publishers with more exaggerated or scandal-mongering headlines aim to explicitly catch attention and generate more clicks onto their website.

Clickbait sites tend to have more polarized and partisan content, more negative headlines and more misinformed content, including malware.[42] For example, the site *thetrumpmedia.com* (generated 375,000 average impressions per week) was deemed suspicious and "untrustworthy" by scam reporting sites, because it uses an anonymous server to hide its identity.[43] After we concluded our study, the site went offline.

Similarly, *trumpinsurrection.com* displayed mostly ads on its site, including misleading ads disguised as news, and automatically generating pop-ups for visitors. Though these two particular sites are not anonymized by the Google Display Network, they show how websites can post hyper-conservative content and ads disguised as fake news (potentially alongside legitimate advertisements) to generate clicks.

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[41] Julio Reis, et. al., Breaking the News: First Impressions Matter on Online News, April 16, 2015, *available at* https://arxiv.org/pdf/1503.07921v2.pdf.

[42] Craig Silverman, Lies, Damn Lies, and Viral Content. How News Websites Spread (and Debunk) Online Rumors, Unverified Claims, and Misinformation, *Tow Center for Digital Journalism*, February 10, 2015, *available at* https://towcenter.org/research/lies-damn-lies-and-viral-content/.

[43] https://www.scamadviser.com/check-website/thetrumpmedia.com; Marvin, *Marketing Land*, Feb. 28, 2017.

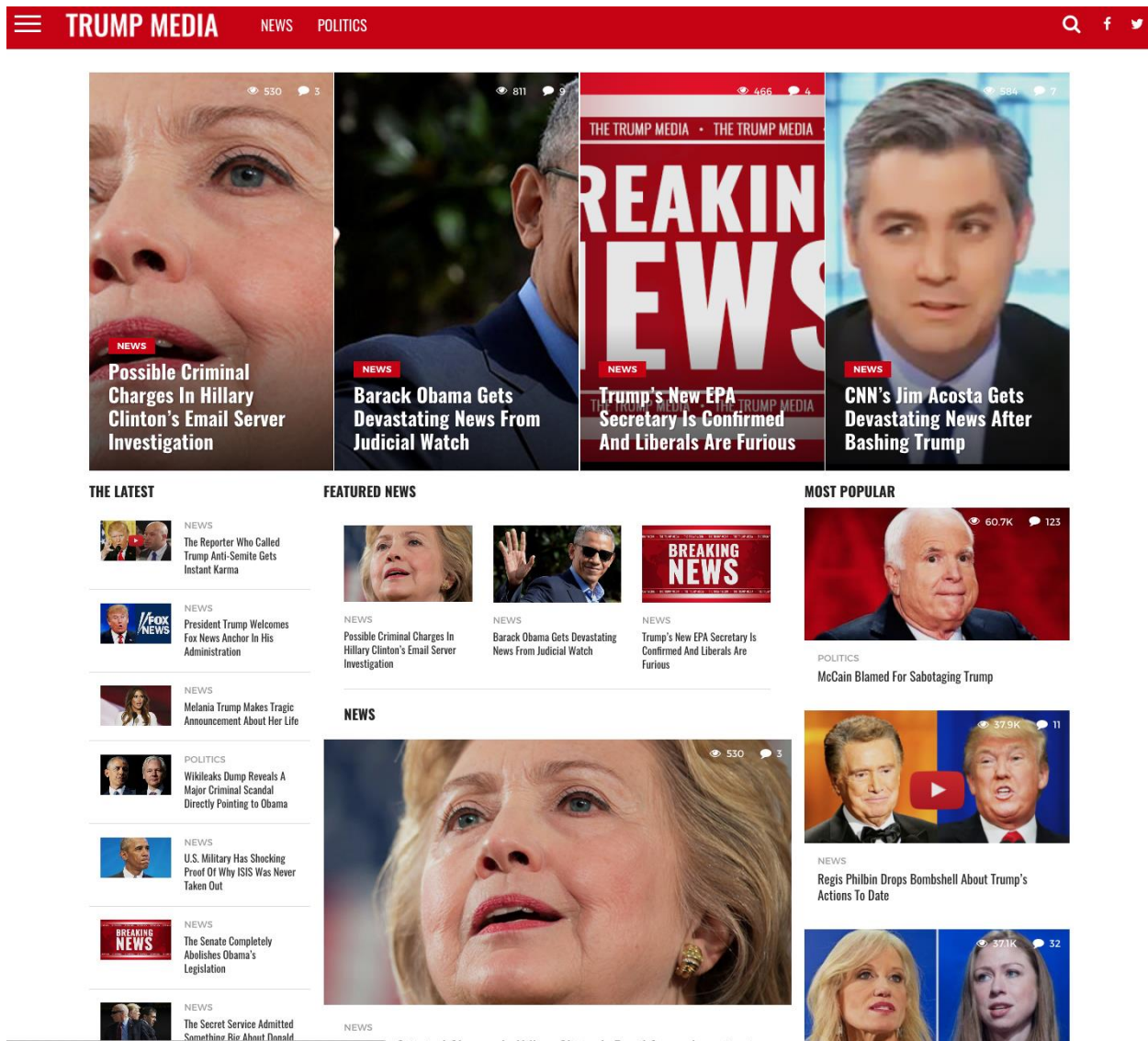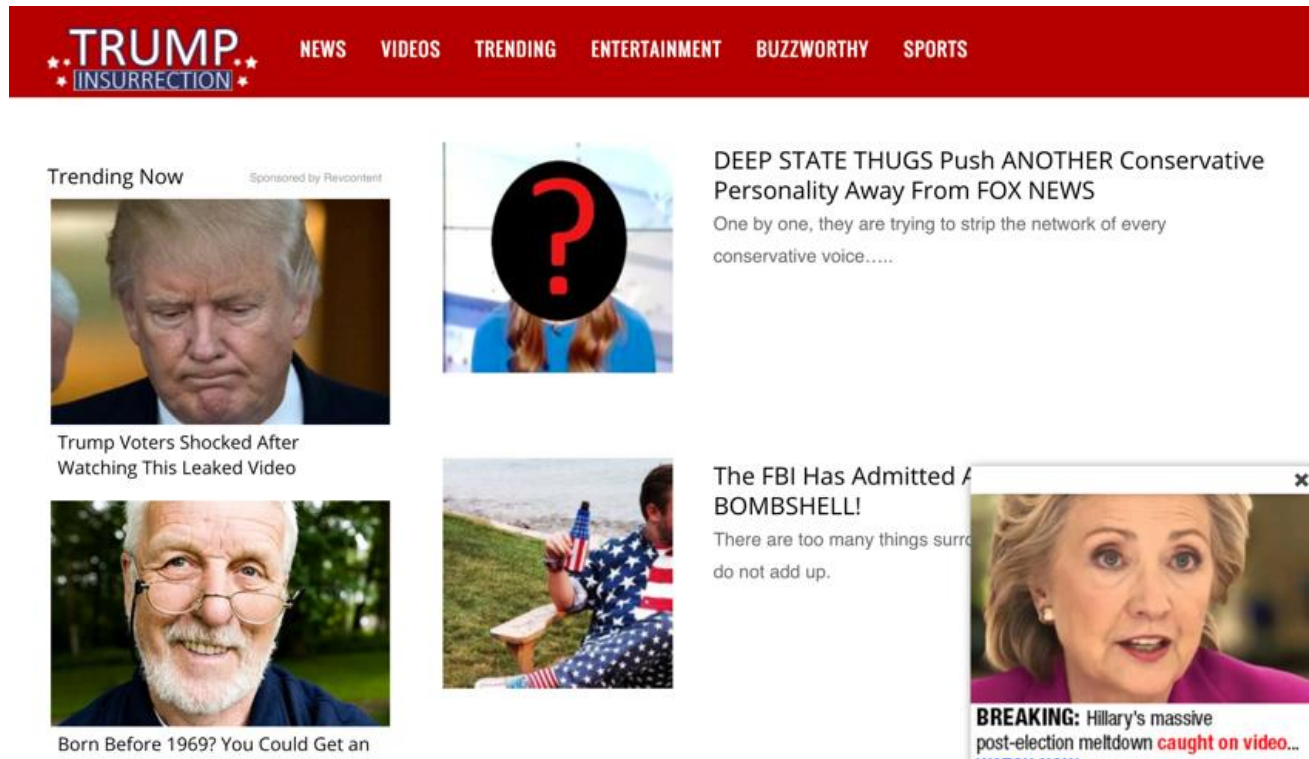**Image 1:** *The Trump Media Homepage* (no longer available)

Image 2: *The Trump Insurrection*

While further study is needed on this topic, anonymization is likely associated with more clickbait and less secure content, generating a significantly greater number of impressions relative to non-anonymized sites but also putting users and legitimate advertisers at a greater risk.

Costs per click (CPC) were higher among non-anonymized sites. While anonymized sites generated higher impressions, non-anonymized sites tended to have ads with higher costs per click. Cost per click is the amount the publisher and Google earn each time a user clicks on an AdSense ad, essentially the commission fee.[44] The highest cost per click in the sample was $5.00 ($5.00 for each click), whereas the lowest was $0.00.[45] Non-anonymized publishers had a slightly higher average cost per click than anonymized publishers ($0.57 compared to $0.53) but a substantially higher maximum. The maximum cost per click for anonymized publishers was only $3.00, but the maximum cost per click for non-anonymized publishers was $5.00.

The drivers of greater costs per click among non-anonymized publishers remains inconclusive. Greater costs per click for AdSense are associated with a variety of factors, including Quality

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[44] For AdSense, the actual cost per click that advertisers pay is based on a weighted average of the advertiser's maximum bid and Quality Score, along with the maximum bids and Quality Scores of other advertisers. *See* https://support.google.com/adwords/answer/2996564.

[45] The cost per click of $0.00 is likely due to fees being rounded down, i.e. $0.0005 being generated as $0.00.

Scores, competitor advertisements on GDN and the advertiser's product and marketing campaign itself (as more expensive products tend to have higher costs per click).[46]

In addition, Google targets ads based on both user and publisher factors.[47] It could be that advertisers with more expensive products only display on non-anonymized sites, but Google's bidding algorithm—combined with user and publisher factors—makes it difficult to determine why costs per click are generally higher among one group compared to another.

Right-wing and Left-wing Content

In our GDN sample, the majority of publishers (65%) were identified as having primarily right-wing content. In contrast, publishers with primarily left-wing content made up only 13% of the sample (the remaining had no explicitly identified political content). This does not necessarily mean that 65 percent of the publishers have a right-wing bias, since Google's "right-wing politics" topic listing may misclassify sites that discuss of right-wing politics from a politically neutral (or left-leaning) perspective.

This may partially reflect more content across news sites on American right-wing politics, as publisher data was collected in February 2017. On the other hand, this trend in right-wing content also reflects the broader rise in hyper-partisan conservative sites and well-connected conservative sites compared to liberal ones.[48] In light of previous studies on better connected but less reliable hyper-conservative sites, the relationship between right-wing partisanship and right-wing content among GDN publishers merits further investigation.

As shown in Figure 6, we estimated that right-wing publishers generated 71 percent of Google's GDN annual revenue or $48.8 million among the sampled sites, whereas left-wing publishers only generated approximately 4 percent of overall revenue or approximately $3 million. This means that left-wing content publishers generated less revenue for Google relative even to their frequency. Sites with no explicit political content generate 28 percent of total annual revenue or $20 million. This substantial difference in revenue between right-wing and left-wing content publishers holds across anonymized and non-anonymized publishers (see Figure 7). This is due in part to left-wing publishers having significantly fewer impressions on average than right-wing publishers.

A sample t-test or comparison of means between right-wing and left-wing content publishers demonstrated these differences; left-wing publishers had on average only 2,188,816 impressions

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[46] For information on Google's cost and bid structure for advertisements, see information on Google's Display Network Auction, *available at* https://support.google.com/adwords/answer/2454058.

[47] Muhammad Ahmad Bashir, et. al., Tracing information flows between ad exchanges using retargeted ads, *Proceedings of the 25th USENIX Security Symposium*, August 2016, *available at* http://www.ccs.neu.edu/home/ahmad/publications/bashir-usenix16.pdf.

[48] Taylor Cherry, Yes, Fake News Exists On The Left - But It's Being Overblown, *Media Matters*, February 9, 2017, *available at* https://www.mediamatters.org/blog/2017/02/09/yes-fake-news-exists-left-its-being-overblown/215273. Similarly, *Buzzfeed* found evidence of right-wing news sites displaying more false information than left-wing news sites. *See* Craig Silverman, Hyperpartisan Facebook Pages Are Publishing False And Misleading Information At An Alarming Rate, *BuzzFeed,* October 20, 2016, *available at* https://www.buzzfeed.com/craigsilverman/partisan-fb-pages-analysis.

per week but right-wing publishers had on average 9,713,027 impressions per week. The significantly higher impressions per week among right-wing publishers could be attributed to denser networks between right-wing publishers.[49] This corresponds with other empirical studies that found such networks of fake news sites associated with hyper-conservative hubs, including *Conservapedia, Rense, Breitbart News and Daily Caller.*[50]

Image 3: Breitbart

Google Ad

Breitbart Ad

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[49] Cherry, *Media Matters*, Feb. 9, 2017.

[50] Mathew Ingram, What a Map of the Fake-News Ecosystem Says About the Problem, *Fortune*. November 28, 2016, *available at* http://fortune.com/2016/11/28/map-fake-news/. *See* Jonathan Albright, The #Election2016 Micro-Propaganda Machine, *Medium*, November 18, 2016, *available at* https://medium.com/@d1gi/the-election2016-micro-propaganda-machine-383449cc1fba.

Figure 6: Estimated Google annual revenue from sampled sites by publisher's political content

4.14% ($2,986,572)

28.19% ($20,318,587)

67.67% ($48,775,355)

Left   None
Right
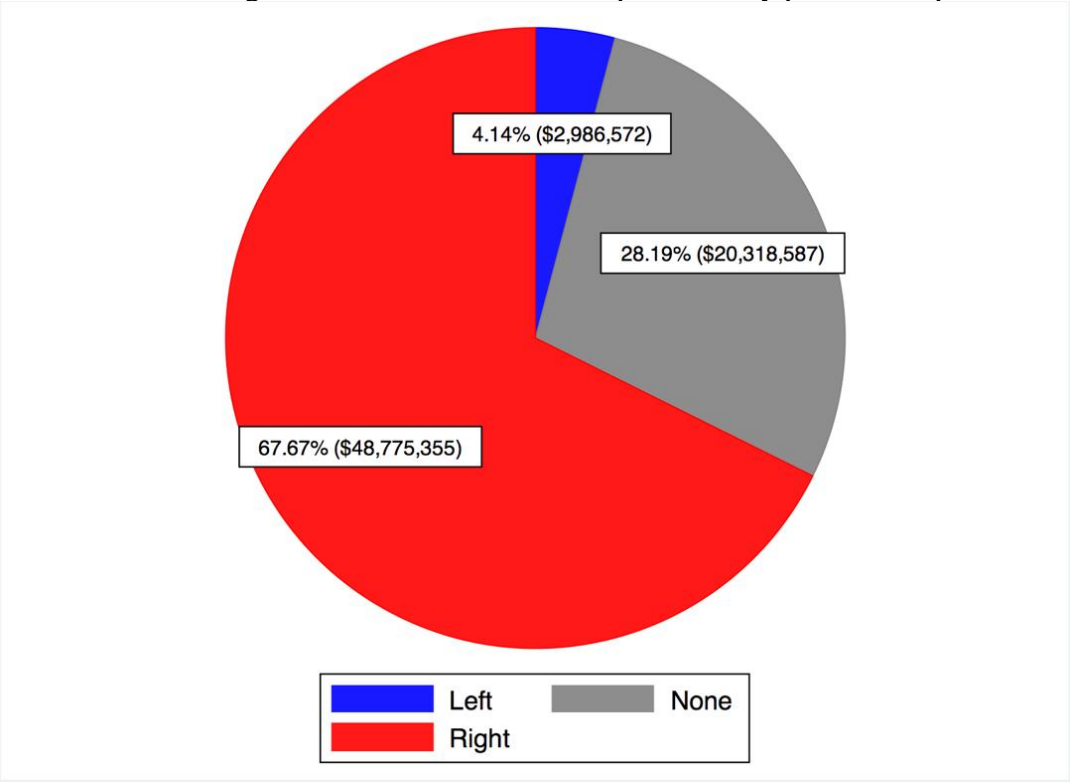
Figure 7: Estimated Google annual revenue per GDN publisher site

$248,820

$192,457

$26,594 $27,799

Left/None   Right Wing   Left/None   Right Wing
Domain Identified   Anonymized Domain

GDN average annual revenue per site
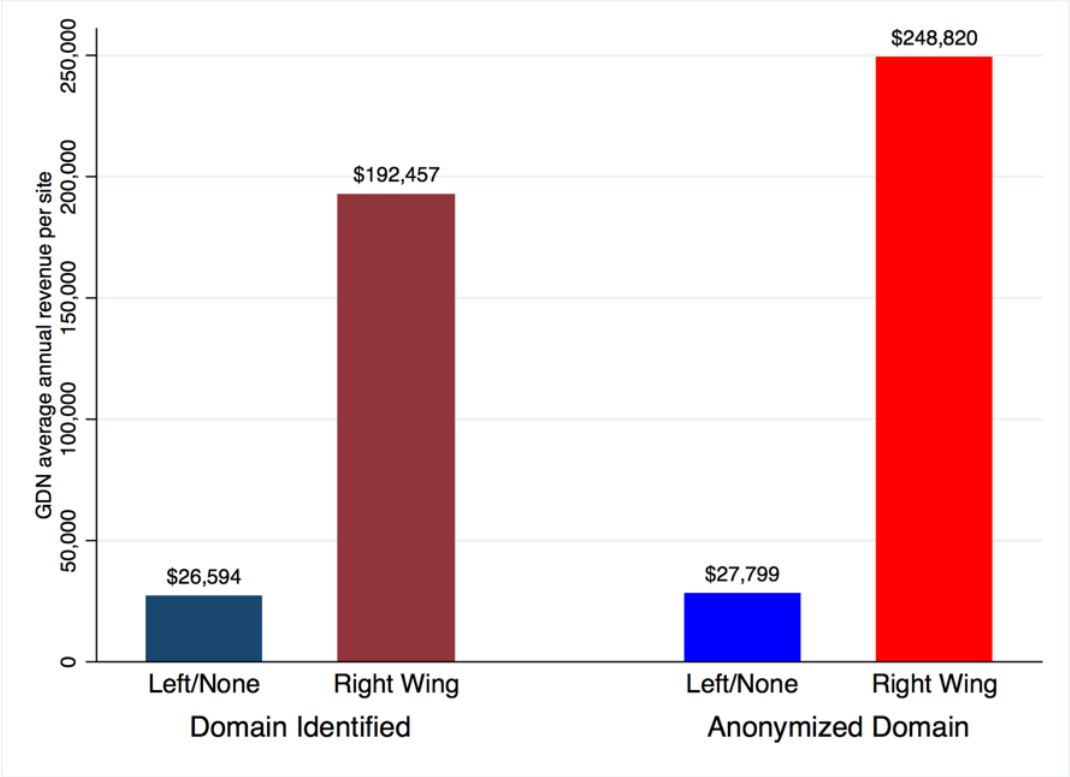
Conclusion

This study shows that, despite Google's recent updates to its advertising terms of service, the network of news publishers on the Google Display Network remains opaque to advertisers, to the financial benefit of Google. While Google profits off of hyper-partisan and fake news sites, legitimate advertisers could face unintended damage to brand reputation when their ads appear alongside fake or malicious content. The largest drivers of ad impressions in this sample were associated with anonymized domains and right-wing content. In contrast, publishers of left-wing content were never anonymous and generated significantly fewer ad impressions and estimated revenue. Publishers of left-wing content had greater transparency than publishers of right-wing content but lacked ad impressions. From this study, we can expect that Google profits from both anonymized and right-wing content publishers. This trend is problematic for advertisers and users because it incentivizes Google to conceal pertinent information about AdSense publishers and publisher content.

Appendix

Detailed Methodology

For this study, we estimated Google's annual revenue from a sample of news sites that publish ads through Google. We used *Marketing Land's* data on 1,255 news sites in the Google Display Network as an initial sample to test these claims and the proposed methodology.[51] The *Marketing Land* sample is available online and covers the time period between February 10, 2017 and February 23, 2017.[52] The dataset includes information on ranges of costs per click, impressions per week, image ad size and the publisher website's topic listings and subtopic listings according to Google AdSense.

Costs per click is the amount the host site and Google earn each time a user clicks on a Google Adsense ad. Publishers receive 68 percent of the revenue for displaying ads with content, and Google receives 32 percent of the revenue.[53] Cost per click is determined by the AdSense bidding process, a combination of the advertiser's maximum bid and Quality Score, along with the maximum bids and Quality Scores of competing advertisers.[54] Costs per click varies by advertisement, and a single publisher may have multiple ads with different costs per click. Therefore, *Marketing Land* provides a range of the costs per click per publisher. Using this information, we generated measures for each publisher of average cost per click, minimum cost per click and maximum cost per click.

Impressions are the number of times the host website is loaded and returns at least one Google AdSense ad, such that the website is clicked and fully loads advertisements.[55] Impressions can vary within a single publisher both over time and across pages. Similar to costs per click,

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[51] Marvin, *Marketing Land*, Feb. 28, 2017.
[52] *See* https://docs.google.com/spreadsheets/d/1qSn054gPG2V7lWl3vsD0NTkjBO8BoxX-CSKGx-9yrsQ/edit?usp=sharing.
[53] https://support.google.com/adsense/answer/180195?hl=en.
[54] https://support.google.com/adwords/answer/2996564.
[55] https://support.google.com/adsense/answer/6157410?hl=en.

Marketing Land provides a range of weekly impressions for each publisher. We subsequently generated measures for each publisher of average impressions per week, minimum impressions per week and maximum impressions per week.

When combined with click through rates, information on impressions and costs per click allowed us to estimate the revenue generated from ads on GDN news sites. The click through rate is the ratio of users who click on a specific link relative to the total number of users who view or are exposed to the Adsense advertisement (number of clicks over number of exposures of websites).[56] The *Marketing Land* data provides impressions per week and historic costs per click but lacks information on CTR, the third component required to estimate revenue. In estimating the CTR, we used the online marketing average of 0.1 percent.[57] CTRs can vary dramatically by advertising industry, country and other factors. Acknowledging the difficulty in obtaining exact CTRs, an alternative approach to test the robustness of our findings would be to generate a probabilistic distribution of potential CTRs, such as through Markov chain Monte Carlo (MCMC) sampling. Using this technique, we would be able to determine Google's revenue based on a posterior probability of click through rates.

For this initial analysis, we use a constant and average click through rate of 0.1 percent in calculating revenue. As Marvin provided a range of impressions and CPC, we include the average, minimum and maximum values in calculating revenue. Using information on impressions, click through rates, and costs per click, we then calculated the total revenue per week.

$$(click\ through\ rate) \times (impressions\ per\ week) \times (costs\ per\ click) = total\ revenue\ per\ week$$

We estimated *annual revenue* by multiplying weekly revenue by the number of weeks in a year (i.e. revenue per week × 52). Finally, annual revenue is divided between Google and its GDN publishers. As mentioned previously, publishers receive 68 perent of the revenue for displaying ads with content, and Google receives 32 percent of the revenue.

For determining left versus right wing sites, we relied on the GDN topic categories and whether the topics contained "left-wing" or "right-wing" subcategories for content. These topics and subtopics are generated by Google, and refer to content but does not refer to the overall ideology or political affiliation of the website. Thirty four percent of the publishers lacked an explicit left-wing or right-wing content according to Google.

Table 2 shows the descriptive statistics for the variables described above.

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[56] https://support.google.com/adsense/answer/32720?hl=en&ref_topic=19363.
[57] Louis Boone and David L. Kurtz, Contemporary Marketing, Update 2015, *Cengage Learning*, 2014, p. 158.

Table 2: Summary statistics.

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total annual est. revenue (min.)	1,254	$17,745.35	$256,495.00	$0.00	$7,800,000.00
Total annual est. revenue (max.)	1,254	$402,512.50	$2,088,795.00	$0.00	$52,000,000.00
Total annual est. revenue (ave.)	1,254	$179,626.50	$904,094.60	$0.00	$19,500,000.00
Publisher annual est. revenue (min.)	1,254	$12,066.84	$174,416.60	$0.00	$5,304,000.00
Publisher annual est. revenue (ave.)	1,254	$122,146.00	$614,784.30	$0.00	$13,300,000.00
Publisher annual est. revenue (max.)	1,254	$273,708.50	$1,420,380.00	$0.00	$35,400,000.00
Google annual est. revenue (min)	1,254	$5,678.51	$82,078.39	$0.00	$2,496,000.00
Google annual est. revenue (ave.)	1,254	$57,480.47	$289,310.30	$0.00	$6,240,001.00
Google annual est. revenue (max.)	1,254	$128,804.00	$668,414.20	$0.00	$16,600,000.00
Costs per click (min.)	1,254	$0.14	$0.44	$0.00	$3.00
Costs per click (ave.)	1,254	$0.57	$0.43	$0.00	$4.00
Costs per click (max.)	1,254	$1.01	$0.48	$0.00	$5.00
Impressions per week (min.)	1,254	5955736	31500000	1500	500000000
Impressions per week (ave.)	1,254	7435679	40700000	1750	750000000
Impressions per week (max.)	1,254	8915622	50500000	2000	1000000000
Right-wing content	1,254	0.653	0.476	0	1
Left-wing content	1,254	0.130	0.336	0	1

Table 3: Top publishers with GDN by average cost per click

Website	Anonymous	CPC	Weekly Impressions	Total Annual Revenue	Google Annual Revenue	Partisan Content
pressherald.com	No	$4.00	27500	$5,720.00	$1,830.00	None identified
trumpexcel.com	No	$4.00	47500	$9,880.00	$3,162.00	None identified
wowway.net	No	$4.00	17500	$3,640.00	$1,165.00	None identified
elections.ap.org	No	$4.00	175000	$36,400.00	$11,648.00	Right
politics.co.ke	No	$4.00	7500	$1,560.00	$499.00	Right
getdjtrump.com	No	$2.75	17500	$2,502.00	$801.00	Right
mondopolitico.com	No	$2.75	3250	$464.00	$149.00	Right
999188af3695d396.*	Yes	$2.75	75000	$10,725.00	$3,432.00	Right
worldfinancialdigest.com	No	$2.75	4750	$679.00	$217.00	Right
mcclatchydc.com	No	$2.75	7500	$1,072.00	$343.00	Right
063c1dcb44cac92c.*	Yes	$2.75	475000	$67,925.00	$21,736.00	None identified
politics1.com	No	$2.75	75000	$10,725.00	$3,432.00	Left

Note 1: Estimated averages provided for annual revenue, CPC and weekly impressions.

Online advertisement industry average assumed for click-through-rate, 0.1
percent.
Note 2: * designates website followed by anonymous.google.com domain.

Table 4: OLS: Google Annual Revenue and Anonymized GDN Publishers

VARIABLES	(1) Google Revenue (Ave.)	(2) Google Revenue (Ave.)	(3) Google Revenue (Ave.)	(4) Google Revenue (Ave.)
Anonymized Domain	205,370***	202,817***	424,118***	35,021**
	(38,143)	(38,288)	(75,809)	(16,334)
Right-wing Content	9,267	12,182	32,227	-5,111
	(18,679)	(19,114)	(44,616)	(6,699)
Left-wing Content		-15,493	-40,869	1,083
		(11,779)	(26,257)	(2,688)
Average CPC	19,506	19,695	14,504	21,697**
	(13,584)	(13,563)	(21,009)	(8,820)
Constant	10,122	10,498	42,530	-8,690**
	(18,388)	(18,403)	(46,870)	(3,652)
Observations	1,254	1,254	1,254	1,254
R-squared	0.064	0.064	0.053	0.035

Note 1: Robust standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$
Note 2: Data from Ginny Marvin's sample of GDN news sites (2-10-17 to 2-23-17)

Table 5: OLS: Average Weekly Impressions and Anonymized GDN Publishers

VARIABLES	(1) Impressions	(2) Impressions	(3) Impressions
Anonymized domain	2.88e+07***	2.827e+07***	3.194e+07***
	(6.039e+06)	(5.953e+06)	(7.318e+06)
Right-wing content		1.514e+06	3.987e+06**
		(2.513e+06)	(2.032e+06)
Left-wing content		-1.767e+06	-2.054e+06
		(1.468e+06)	(1.856e+06)
CPC		-3.438e+06	-3.043e+06
		(2.136e+06)	(2.506e+06)
Constant	3.212e+06***	4.498e+06*	1.444e+06
	(801,117)	(2.574e+06)	(2.468e+06)

Content Fixed Effects	No		No		Yes	
Observations	1,254		1,254		1,254	
R-squared	0.063		0.064		0.185	

Note 1: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Note 2: Data from Ginny Marvin's sample of GDN news sites (2-10-17 to 2-23-17)

Table 6: Top publishers with GDN by average weekly impressions

Website	Anonymous	Weekly Impressions	CPC	Total Annual Revenue	Google Annual Revenue Content	Partisan Content
6f1c8c9a3e96ee38-*	Yes	750,000,000	$0.00	$0.00	$0.00	Right
dailymail.co.uk	No	750,000,000	$0.50	$19,500,000	$6,240,001	None identified
6068-	Yes	475,000,000	$0.50	$12,400,000	$3,952,000	Right
350498c057e2f3df-	Yes	475,000,000	$0.00	$0.00	$0.00	None identified
9413-	Yes	275,000,000	$0.50	$7,150,000	$2,288,000	Right
drudgereport.com	No	175,000,000	$0.50	$4,550,001	$1,456,000	Right
42874cce0997b37b-	Yes	175,000,000	$0.50	$4,550,001	$1,456,000	None identified
youngcons.com	No	175,000,000	$0.50	$4,550,001	$1,456,000	Right and Left
7133-	Yes	175,000,000	$0.50	$4,550,001	$1,456,000	Right
4621-	Yes	175,000,000	$0.50	$4,550,001	$1,456,000	Right
faf2360c8f1401b3-	Yes	175,000,000	$0.50	$4,550,001	$1,456,000	Right
breitbart.com	No	175,000,000	$0.50	$4,550,001	$1,456,000	Right
6fa6e635582179a0-	Yes	175,000,000	$1.25	$11,400,000	$3,640,000	None identified

Note 1: Estimated averages provided for annual revenue, CPC and weekly impressions.
Online advertisement industry average assumed for click-through-rate, 0.1 percent.

Note 2: * designates website followed by anonymous.google.com domain.